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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,274	04/13/2005	Gert Andersson	2921-0148PUS1	5065
2292 7590 01/21/2011 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER VARGOT, MATHEU'D				
ART UNIT		PAPER NUMBER		
1742				
NOTIFICATION DATE		DELIVERY MODE		
01/21/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/531,274

Applicant(s)

ANDERSSON ET AL

Examiner

Mathieu D. Vargot

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. Claims 16 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 16 and 17 contain the trademark/trade names CTOP (should be CYTOP) and parylene respectively. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the polymer and, accordingly, the identification/description is indefinite.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al essentially for reasons of record noting the following.

In view of the amendment requiring the cavity to be formed **after** the formation of the light shaping unit, the 102 has been dropped. However, since Sun et al clearly

forms a cavity (15 in Fig. 2) in the micromechanical structure, it is submitted that the instant claims would be obvious over the reference generally for reasons of record. To reiterate, a photoresist pedestal is subjected to reflow treatment to form a microlens and then covered with an etch stop material—silicon dioxide, see col. 3, lines 8-17—to protect the formed microlens during post-processing—ie, subsequent etching. Hence, the microlens is clearly formed of a polymer—ie, the photoresist that is reflowed—on top of a carrier layer of another material. Reading column 3, lines 23-34, a photoresist is apparently patterned and then the pattern is transferred to the carrier material, so the initial photoresist is indeed removed. Then, cavity 15 is formed using wet etching to the SiO₂ layer, which serves as an etch stop. After a hole is made from the top by etching, a photoresist—polymer—microlens is formed using photolithography and reflow. One of ordinary skill in the art would understand this to mean a polymeric resist is being patterned as desired photolithographically, and then the remaining photoresist is being heated to subject the resulting pedestal to melting and reflow to form the microlens. Then further etching occurs to make the stage and comb structures—ie the final support and moving structures. Hence, Sun et al does indeed disclose forming a light shaping unit from a polymer on a carrier material and subsequently forming, from the carrier layer, the micromechanical plate for movably supporting the light shaping unit. The only aspect missing from Sun et al is the formation of the cavity **after** the formation of the polymeric light shaping unit and the intermediate micromechanical plate for movably supporting the light shaping unit.—the reference produces this cavity before these formations. However, it is submitted that one of ordinary skill in the art would have

found it obvious to have modified the method of Sun et al by forming the cavity after the formation of the light shaping unit and the supporting structure since the etch stop silicon dioxide layer still exists and would have stopped the etching regardless of when the cavity was formed. As noted in earlier rejections, Sun et al discloses the individual steps of the instant process and one of ordinary skill in the art would have found their exact order as obvious dependent on the exact manner in which the step is performed. It is submitted that the instant polymers as set forth in newly added claims 16 and 17 are well known in the art and would have been obvious polymers to employ as photoresists in the process of Sun et al dependent on their known properties. It is certainly within the skill level of the art to pick and choose suitable materials for their known properties.

3. Claims 4, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sun et al in view of Japanese 2000-155,201 essentially for reasons of record as set forth in paragraph 2, *supra*, and paragraph 4 of the previous action, noting the following.

In view of the amendment, JP -201 has now been applied only against the claims that recite embossing and the particular polymer used. It is noted that JP -201 does not teach the basic process. However, it is submitted that the reference is suitable to teach the formation of microlenses by embossing a polymer layer, an aspect that is not shown in Sun et al. The formation of microlenses by either resist reflow or embossing is quite well known in the art and one of ordinary skill in the art would realize that the light shaping unit of Sun et al—ie the microlens—would be made by either technique. As

4. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

In view of the amendment, the rejection has been reformatted to some extent but remains essentially the same. While applicant continues to suggest that Sun et al makes the light shaping unit-- microlens—from the same material as the carrier, a fair reading of column 3, lines 8-34 shows that such is not the case. The passage that applicant refers to as indicating that the microlens is made from the same material as the carrier—col. 1, lines 51-53—is submitted as being misinterpreted by applicant. In that passage, Sun et al states “[P]referably the scanning microlens is Si-based which is easier to fabricate than the GaAs-based scanning....”. This simply means that the carrier material—the combs and the stage— and the micromechanical structure in general will be made of a Si-based material—which it is—rather than a GaAs-based material. However, it is respectfully submitted that this disclosure does not pertain to the actual microlenses themselves, but rather the supporting structure. The microlenses themselves are being made from a photoresist, which is known to be a polymeric material that gets exposed, patterned and otherwise shaped or etched. In the instant case, it is also clear that the microlenses themselves are made up of the photoresist. Contrary to applicant's comments, the microlens is not made up of the same material as the carrier, which is subsequently formed into the stage and motion imparting combs. The only aspects lacking in Sun et al are obvious differences—the order of formation of the cavity and the embossing of the polymer to form the microlens, as opposed to reflow heating.

5.Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6.Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mathieu D. Vargot whose telephone number is 571 272-1211. The examiner can normally be reached on Mon-Fri from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on 571 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see <http://portal.uspto.gov/external/portal>.
Should you have questions on access to the Private PAIR system, contact the
Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M. Vargot
January 17, 2011

/Mathieu D. Vargot/
Primary Examiner, Art Unit 1742